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# AN APPRAISAL OF THE BOMBING OF NORTH VIETNAM



(THROUGH 16 OCTOBER 1967) OCTOBER 1967

S-2547/AP4A

Prepared Jointly by
The Central Intelligence Agency
and
The Defense Intelligence Agency



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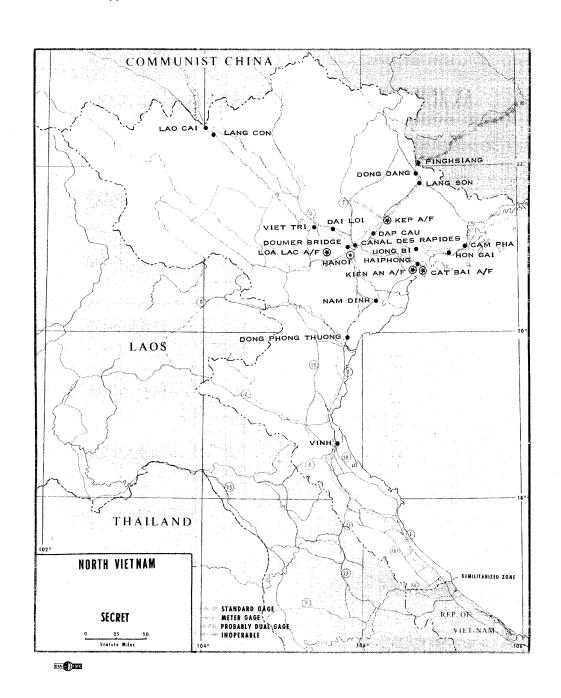
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# AN APPRAISAL OF THE BOMBING OF NORTH VIETNAM (THROUGH 16 OCTOBER 1967)

#### **FOREWORD**

This report is prepared on a monthly basis at the request of the Secretary of Defense for an evaluation of certain effects of the ROLLING THUNDER program. The report covers three general areas of concern: Effects on Military Targets; Leadership and Public Reactions; and Effects on the NVN Economy. The discussion of political effects is limited to those developments within North Vietnam which relate to Hanoi's attitude toward continuing the war and the effects the ROLLING THUNDER attack has on civilian morale in North Vietnam.

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### AN APPRAISAL OF THE BOMBING OF NORTH VIETNAM THROUGH 16 OCTOBER 1967

#### SUMMARY

- 1. (S/NFD) Bad weather limited air activity over North Vietnam to a level substantially lower than the 10,700 sorties averaged monthly during the past three months. About 3,000 less sorties were flown in September. Most of the effort continued to be against the transport system, which showed some improvement in comparison with the previous period. The most significant strikes were in the Haiphong area, particularly those against the rail and highway bridges.
- 2. (S/NFD) Rail service into Hanoi -- which had been seriously disrupted since 11 August by the interdiction of the Hanoi Railroad/ Highway Bridge over the Red River (Doumer Bridge) -- was improved slightly by early October when the bridge was made serviceable for truck and limited rail traffic. 1/ The Canal des Rapides Bridge was made serviceable for both rail and truck traffic by 17 September. The interdiction of bridges in Haiphong has seriously disrupted rail movement from the port, but at least 10 highway pontoon bridges and ferries provide alternates for truck traffic. In addition, watercraft can be used to maintain the movement of goods from the port. In the Panhandle, heavy rains flooded roads and limited vehicle movement.

<sup>1/</sup> The Doumer Bridge was restruck on 25 October subsequent to preparation of this report. Initial photographic assessment indicates that the Bridge has been interdicted.

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- 3. (S/NFD) Because of poor flying weather, destruction and damage to railroad rolling stock and trucks decreased sharply during September. Damage inflicted on waterborne logistics craft declined only slightly. The high rate of vehicle attrition that began in May and continued through August was not completely offset by identified seaborne imports of vehicles during the same period. In addition to probable recent vehicle imports from China, deck cargo on Soviet freighters en route to Haiphong includes a number of trucks, tractors, prime movers, and trailers.
- 4. (S/NFD) Attacks were made on shipbuilding and repair yards in the Haiphong port area for the first time. These facilities construct and repair small coastal ships, lighters, and barges. During strikes on dispersed helicopters in a field near Hoa Lac, pilots reported destroying two MI-6 HOOKS.  $\frac{1}{}$
- 5. (S/NFD) Air strikes against electric powerplants, other industrial facilities, and petroleum storage depots remained at a low level. There was no significant change in the availability of electric power, although repair efforts were underway at some of the major powerplants. New agreements were signed completing the round of aid agreements for 1968, in an effort to offset the cumulative effects of the bombing. The North Vietnamese continued to import large quantities of food, apparently in anticipation of a below-normal fall rice harvest. They have also requested increased imports of textiles to offset serious shortages.

Phuc Yen Airfield was attacked on 24 and 25 October subsequent to the preparation of this report. Initial analysis indicates that the airfield is unserviceable. An estimated five MIG-21s and 10 MIG-17s were destroyed on the ground or in the air.

- 6. (S/NFD) Total identified seaborne imports fell to 72,700 metric tons, down 33 per cent from August and 39 per cent less than the average monthly volume for the first eight months of 1967. Reduced imports and exports in the third quarter of 1967 helped to facilitate a reduction in layover time of ships departing in September to 21 days -- the lowest since May and well below the peak of 33 days in August. It was, however, substantially above the 12 day average layover time during the first quarter of 1967. There is no evidence to indicate that this reduction reflects an improvement in offloading capabilities at Haiphong.
- 7. (S/NFD) Interdictions of the lines of communication in the immediate Haiphong area have made the distribution of imports more difficult and required an increase in the use of waterborne transport. Because the requirements are modest, the North Vietnamese still retain the capability to logistically support activities in South Vietnam and Laos at present or increased combat levels and force structures. However, the cumulative effects of the air strikes have degraded North Vietnam's capability for sustained large-scale conventional military operations against South Vietnam.

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#### Effects on Military Targets

- 1. (S/NFD) Air activity over North Vietnam was substantially lower than the 10,700 sorties averaged monthly during the past three months. About 3,000 less sorties were flown in September. Heavy rains and extensive cloud cover limited air operations in the northeast by causing sorties to be canceled or diverted to other targets. Most of the effort continued to be against the transport system, which showed some improvement in comparison with the previous period. The northeast rail line and targets in the Haiphong area continued to receive high priority, although over half of the total strikes were in the southern Panhandle. During September, damage to transport equipment declined sharply from the record high in August. The most significant strikes were in the Haiphong area, particularly those against the rail and highway bridges. Airfields, military barracks, electric power facilities, storage sites, surface-to-air missile (SAM) installations, ammunition depots, shipyards, and transshipment sites were also struck.
- 2. (S/NFD) Rail service into Hanoi had improved slightly by early October. The Hanoi Railroad/Highway Bridge over the Canal des Rapides was restored for rail and highway traffic by at least 17 September, which permitted traffic to move south to the Hanoi Railroad/Highway (Doumer) Bridge over the Red River. Photographs of 4 October showed that the Doumer Bridge was also serviceable for truck and limited rail traffic; freight cars may have to be

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shuttled across the bridge because the repair span may not be able to support locomotive weights. Restoration of these bridges will enable traffic to flow without the time-consuming transshipment to motor trucks or the use of rail ferries. On the northern part of the Dong Dang line, the original bridges at Dap Cau and Lang Son remain unserviceable, but alternate rail bridges are available.

- 3. (S/NFD) The Haiphong Railroad/Highway Bridge apparently was unserviceable after 28 September. No rail bypass is currently available for the Haiphong Bridge, although one is under construction to the southeast. The movement of goods to the Hanoi area or south to Nam Dinh by truck can continue via at least 10 highway pontoon bridges or ferries. The existence of a complex network of inland waterways from Haiphong to Hanoi also permits movement of goods by watercraft, although seeding of the area with influence bombs may be hampering this traffic. Trucks and watercraft also can transport goods from Haiphong around the interdicted bridge where they can be transshiped to the Haiphong rail line, which is operable for through service west of the interdicted bridge. Thus, while the damage inflicted has stopped rail movements out of Haiphong, the flow of goods can continue.
- 4. (S/NFD) Rail traffic on the Hanoi-Lao Cai line continued to be disrupted by the need to use rail ferries at Viet Tri. In addition, the Dai Loi Railroad Bridge and its bypass, located southeast of Viet Tri, and the Lang Cong Railroad Bridge in the buffer zone,

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were interdicted. Aerial photographs of 30 September, however, revealed that the bypass bridge at Dai Loi had been repaired and was serviceable for rail traffic. Although the rail line south of Hanoi remained closed for through service, shuttle service on both the Hanoi-Vinh line and the tramway south of Vinh continued to permit the movement of goods. Destruction and damage to railroad freight cars and locomotives throughout the country decreased sharply during September.

- 5. (S/NFD) An improved cable technique for bridging over longer distances first noted at Dong Phong Thoung in December 1966 is now being employed at Viet Tri, Lang Son, and Hanoi. At least six well-anchored, deck level cables are supported by overhead cables suspended from approach towers similar to a conventional suspension bridge. The longest of these bridges, 700 feet, is at Viet Tri.
- 6. (S/NFD) The most important damage inflicted on the high-way network during the period was the interdiction of bridges on all roads leading out of Haiphong. Photographs of 4 October revealed that at least 10 highway pontoon bridges and ferries were available. In addition, there is ample waterborne capability to supplement the interdicted land routes and maintain the distribution of imports.
- 7. (S/NFD) Analysis of photographs of 4 October, subsequent to the interdiction of the Haiphong Rail/Highway Bridge, showed

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a significant increase in the number of waterborne logistic craft in the wharf area of Haiphong port -- more than 300 compared with about 200 on 23 August. Offloading directly into watercraft appeared to be greater than before. The 4 October photographs also showed some increase in the volume of goods stored in Haiphong, part of which may be due to the disruption of rail service. Truck and water transport routes have sufficient capacity to handle the volume moved through Haiphong to date. The North Vietnamese may, however, be having problems organizing the shift in transportation, including the allocation of transport equipment.

- 8. (S/NFD) Heavy rains during mid-September caused extensive flooding of roads in low-lying sectors. The effects of the flooding on the transportation system were most pronounced between Vinh and the DMZ. Segments of major routes and connecting roads in this area were impassable for distances of up to 10 miles. Movement over Routes 1A and 101 south of Dong Hoi was prevented for over a week. By the end of September, the roads were dry enought to permit a resumption of traffic.
- 9. (S/NFD) A high level of truck activity in the area between Dong Dang and Pinghsiang, China, was noted in aerial photographs of 17 September. At least 400 vehicles were observed in truck parks along Route 4 between Dong Dang and the Chinese border or moving toward Lang Son. An additional 300 vehicles were located just north of the border. These trucks were probably used to supplement

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to some extent rail traffic on the Dong Dang rail line and to replace part of North Vietnam's motor vehicle inventory.

- 10. (S/NFD) Destruction and damage to vehicles decreased sharply during September because of poor flying weather and fewer sorties. Heavy rains in southern North Vietnam probably resulted in a lower level of truck traffic due to some flooding along Route 1A and related feeder roads. The high rate of vehicle attrition that began in May and continued through August was not completely offset by identified seaborne imports of vehicles during the same period. However, it is estimated that an unknown number of vehicles continue to be brought in on overland routes from China. Also, replacements which include trucks, tractors, prime movers, and trailers have been identified as deck cargo on Soviet freighters en route to Haiphong.
- 11. (S/NFD) Although existing roads and rail lines already have a greater capacity than required for the current level of overland imports, the Communists continue to develop alternate highway transport routes. For example, construction, in the northeastern sector, of a new road to the Chinese border is almost complete. The new road will connect a Chinese road leading to Hai-Yuan with Route 183, providing a more direct route to the Haiphong-Hon Gai area. In addition, bypasses for several bridges along Route 2 to the west have been noted near the Chinese border.
- 12. (S/NFD) Damage inflicted on waterborne logistics craft declined only slightly from the previous period in contrast to the sharp decrease noted for rolling stock and trucks. Sightings in coastal waters south of Dong Hoi increased markedly during

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September, probably as a result of the flooding that made sections of the principal roads leading to the DMZ impassable.

- 13. (S/NFD) Attacks were made on shipbuilding and repair yards in the Haiphong port area, the coal-handling facilities at Cam Pha, and on 20 inland and coastal transshipment points. On 12 October, the Lach Tray and Thoung Shipyards in Haiphong port were struck for the first time. These facilities construct and repair small coastal ships, lighters, and barges. At Lach Tray, four buildings were damaged or destroyed and four barges were damaged; at Thuong, six buildings were destroyed and the dry dock heavily damaged.
- 14. (S/NFD) The North Vietnamese air defenses showed little change during the period. Increased MIG aggressiveness and use of air-to-air missiles (AAM) forced US aircraft to jettison ordnance on approximately twice as many occasions as noted during any similar period in 1967. Between 16 September and 13 October, there were 20 air engagements, with four US and no North Vietnamese aircraft shot down. SAM firings during the same period declined; 247 were noted and five US aircraft, were downed. SAM activity in the DMZ increased. Indications of one or two firing elements present in the area still persist. On 17 September, two SAMs were fired at a flight of three B-52s, but no damage was sustained. RB-66 electronic support aircraft issued SAM warnings one minute prior to sighting, but were unable to fix the location of the SAM element. On 29 September, SAM-associated

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radar signals were intercepted near the DMZ. The following day, a field deployed SAM element with four to five launchers was attacked in the same area, and two additional sites were also struck. Jetcapable airfields at Hoa Lac, Kep, Kien An, and Cat Bi were attacked on 26 separate occasions. Runways and support facilities were damaged. Additionally, on 7 October pilots reported destroying two MI-6 (HOOK) and four MI-4 (HOUND) helicopters in a field dispersal area near Hoa Lac. Loss of the HOOKs -- the largest operational helicopters in the world -- reduces the current inventory to four.

- 15. (S/NFD) Interdictions of the lines of communication in the immediate Haiphong area have made the distribution of imports more difficult and required an increase in the use of waterborne transport. Because the requirements are modest, the North Vietnamese still retain the capability to logistically support activities in South Vietnam and Laos at present or increased combat levels and force structures. However, the cumulative effects of the air strikes have degraded North Vietnam's capability for sustained large-scale conventional military operations against South Vietnam. Leadership and Public Reactions
- 16. (S/NFD) North Vietnam's leaders remained determined to press on with the war. This determination has been restated in the North Vietnamese propaganda reactions to recent statements by President Johnson, UN Ambassador Goldberg, and Secretary Rusk.

Hanoi flatly rejected the US position and called for an "unconditional" halt in the bombing and other "acts of war" against North Vietnam if the US "really wants talks." The North Vietnamese also restated their formula for a settlement, calling for US recognition of the Four Points: cessation of all hostilities, withdrawal of US forces, recognition of the National Liberation Front as the "sole representative of the South Vietnamese people," and recognition of the principles of the 1954 Geneva Accords.

17. (S/NFD) Evidence of conditions within North Vietnam continues to provide a picture of mounting physical destruction, hardships, and shortages of supplies. There have been, however, no significant signs of a decline in popular morale nor any indication that the conditions of the people will force the regime to alter its war policy. Hanoi's propaganda continues to claim that US bombings have caused great damage to the civilian sectors of the economy, including the destruction of schools, hospitals, and agricultural institutions. This picture of destruction is offset, however, by claims that proper evacuation and civil defense measures have cut loss of life to a minimum.

#### Effects on the Economy

18. (S/NFD) Air strikes against electric-powerplants, other industrial facilities, and petroleum storage depots remained at a low level during the reporting period. There was no significant

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change in the availability of electric power, although repair efforts were underway at some of the major powerplants. New aid agreements were signed in an effort to offset the cumulative effects of the bombing. The North Vietnamese continued to import large quantities of food, apparently in anticipation of a belownormal rice harvest. They have also requested increased imports of textiles to offset serious shortages.

19. (S/NFD) About 80 per cent of North Vietnam's electric generating capacity remains out of operation. Although repair of damaged boilers at the Hanoi powerplant appears almost complete, restoration time for damaged equipment in the turbine hall will limit operation to one-half to two-thirds of the plant's installed capacity for another three or four months. Aerial photographs indicate that the powerplants at Uong Bi and Nam Dinh were being tested for partial operation just prior to restrikes on 5 and 6 October. The results of these attacks are not yet known. Photographs also revealed that the powerplant at Viet Tri was nearing partial operational status in late September. There have been no restrikes on this plant since that time. Repair work at the Hon Gai powerplant probably was nullified by a restrike in early October. In Haiphong, four diesel generating stations -- with an estimated capacity of not more than 10 per cent of the city's normal requirements -- have been identified in aerial photographs.

Foreign observers reported that in August most of the city outside the port area was either dark or had only intermittent power.

- USSR, East Germany, Czechoslovakia, Hungary, Albania, Poland, and Cuba, completing the round of aid agreements for 1968. The USSR agreed to supply North Vietnam with additional foodstuffs, chemical fertilizer, ferrous and nonferrous metals, oil products, transport equipment, and medicines as well as military aircraft, antiaircraft and rocket equipment, artillery, small arms, and ammunition. Aid agreements with Communist China, North Korea, Mongolia, Rumania, and Bulgaria were signed in August. Although few details on the new agreements are available, it is apparent that the Communist countries will continue to support North Vietnam with economic and military aid during 1968.
- 21. (S/NFD) North Vietnamese interest in foreign assistance for future development and restoration also continues to be in evidence. The USSR announced that Vietnamese technicians and engineers specializing in railroad, highway, and bridge construction are taking a two-year course in the USSR. Bulgaria reportedly is preparing to ship 1,000 tons of cement for use in constructing cold storage warehouses -- a project contracted for in 1964. In addition, a 10-man North Vietnamese delegation went to France to discuss postwar economic restoration and development of chemical, metal, mechanical, electrical, and light industries. This is the first time such discussions have taken place with a non-Communist country.
- 22. (S/NFD) While it is too early to evaluate the effects on the fall rice crop of the summer drought and the bombing, it is

apparent that the regime anticipates a below normal harvest. Increased planting in low-lying areas probably has not been sufficient to offset the effects of delayed transplanting. The USSR reportedly has been asked to ship at least 25,000 metric tons of wheat flour per month, and Bulgaria has agreed to ship 3,000 metric tons of wheat flour and 2,000 metric tons of maize in October. To date, foreign observers in urban areas generally report sufficient supplies of grain, vegetables, eggs, and poultry but a shortage of meat and fish.

- 23. (S/NFD) Apparently there is a severe shortage of textiles; even the annual cloth ration of five meters is not always being met. This shortage results from reduced production caused by the dispersal of the Nam Dinh and the Eighth March Textile Plants and by inadequate electric power for operating smaller mills. North Vietnam reportedly requested the USSR to ship three million meters of cloth during September.
- 24. (S/NFD) Identified seaborne imports of petroleum in September amounted to only 5,500 metric tons compared with 22,600 metric tons in August. Despite the wide fluctuations in the monthly level of deliveries, imports during the first nine months of 1967 averaged about 21,000 metric tons per month -- about the same as in the corresponding period in 1966. Stocks on hand at the end of September are estimated to have been about 65,000 metric tons, equivalent to 100 days of supply at the estimated September consumption rate of 19,500 metric tons. There was no significant damage to petroleum storage facilities during the reporting period.

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- 25. (S/NFD) Total identified seaborne imports fell to 72,700 metric tons, down 33 per cent from August and 39 per cent less than the average monthly volume for the first eight months of 1967. Imports of fertilizer were about 2,000 metric tons, compared with a monthly average of 18,600 metric tons for the first half of 1967. Foreign observers reported that fertilizer was stored in warehouses in the Haiphong port area in July and August. These observers also reported that local shortages of lighters and work gangs were delaying the unloading of miscellaneous and general cargoes. Ships bringing maize, flour, and other bulk foods reportedly were given priority.
- 26. (S/NFD) Identified seaborne exports decreased from 20,500 metric tons in August to 10,600 metric tons in September as coal exports fell to a new low. The September level of seaborne exports was less than 20 per cent of the monthly average for the first half of 1967.

  Although exports of coal from Hon Gai rose slightly to 8,200 metric tons during the month, only a single shipment of 1,100 metric tons was exported from Cam Pha. Shipments from Cam Pha have been restricted because of the depletion of stockpiles, the restriction or cessation of coal processing operations since the damage to facilities in February, and the recent air strikes against the port area. There continued to be no identified seaborne exports of apatite, cement, or pig from.
- 27. A reduction in port congestion in August lowered average layover times for freighters leaving Haiphong in September to 21 days -- this

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reduction in layover time is due largely to a decrease in the volume of import and export cargoes handled at Haiphong during the third quarter of 1967. This was the lowest average layover time since May and well below the peak of 33 days in August. It was, however, substantially above the 12 day average layover time during the first quarter of 1967. There is no evidence that the reduction in September reflects an improvement in offloading capabilities at Haiphong.

- 28. (S/NFD) A study of aerial photographs to check North Vietnamese claims of at least 35 bombing attacks against 24 dikes during June-August revealed only minor damage in most cases. Recent photographs were available on all but three of the dikes listed by the North Vietnamese. No damage could be found at nine of the located dikes. Only four of the located dikes may have been partially cut, and there was no evidence of any significant flooding. Two of these dikes had been repaired. In all but two cases where dikes showed some evidence of damage, military-associated targets were located nearby.
- 29. (S/NFD) Cumulative measurable damage attributable to the ROLLING THUNDER Program through September is estimated at \$350 million (see Tab B). In addition to these measurable losses, there continue to be many other losses to both the economy and the military establishment which cannot be assigned meaningful values.

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RESULTS OF STRIKES ON NVN TARGETS 4/ THRU 14 OCTOBER 1967

							TABLE 360		
Fixed Targets	Total Ta National Capacity (X 1000)	J	<u>c/</u> ICS <u>d/</u> Egeted %		argets truck <u>d</u> / %	<u>e</u> / No. of Attacks	<u>b</u> / Strike Sorties	<pre>% of National Capacity Destroyed or inactive because of air strikes</pre>	
Barracks	443 men	65	41.08	58	35.9	393			
Ammo Depots	112.6 MT	18	100	18	100	112	3160	26.86	
POL Storage *	133.5 MT	13	100	13	100	91	1379	77.0	
Supply Depots	10550 SqFt	29	42.48	26	31.2	90	756	87.3	
Power Plants	192 KW	20	92.1	15	85.8		884	18.98	
Maritime Ports	8.2 ST/DY	9	97	7	48	106 30	794	80.0	
RR Yards	49.7 ST/DY	4	78	<del>- ,</del>	54	87	292	13.5	
RR Shops		3	88	$\frac{3}{2}$	68	5	622	23.6	
Industrial:					00	3	38	27.1	
Explosive Plant	_1 MT	1	100	1	100	20	100	100	
Iron & Steel	300MT(PIG)	1	100	1	100	24	126 281	100	
Cement Plant	600 MT	1	100	1	100	1		100	
	Total				100	<del></del>	57	100	
	Targets							% of those targeted	
<u>Airfields</u>	32	12**	ŧ	95/5	36	82	1005		
Naval Bases	15	.5	******	4	57	30	1095	26	
Bridges	1561	61		55	J/		295	30.4	
Commo Install	45	5	· · · · · · · · · · · · · · · · · · ·	2	<del> </del>	522	5116	61.7	
Radar Sites	210	<u></u> _		5		2	15	20	
SAM Sites	164		·	58		76	444	75.0	
Locks and Dams	94	8		2	38.6	12	388		
Ferries	160			$\frac{2}{11}$	30.0	7	10	38.6	
				<u> </u>			44		

JCS targets only; does not include dispersed storage

Total Sorties: 14,609

include dispersed	storage	A 1	ŕ	Resul	ts <u>f</u> /
Includes non-JCS Hoa Lac Airfield		Armed Recce Sorties 172,877	Vessels Vehicles RR Stock	-,	Damaged 15,997 4,845 2,731

- $\underline{\underline{a}}/$  Assessments are based on best information received; will be refined as more accurate information becomes available.
- $\underline{b}$ / Strike plus flak suppression sorties. Some applied to multiple targets; in this summary assigned to principal target.
- c/ These columns are not additive, since the number of installations, both targeted and struck in some cases, apply to more than one category of targets (i.e., barracks, supply and ammo depots).

Percentages of national capacity where appropriate.

- Also numerous attacks during armed recce and other missions.
- f/ Also numerous installations, AA sites, bridges, etc., attacked and road and

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Value of Economic and Military Damage Attributed to the ROLLING THUNDER Program 1965 Through September 1967

Economic		<u>Mi</u> litary		
Direct Losses	Million US\$	Direct Losses	Million US\$	
Railroad/Highway Bridges Transportation Equipment Electric Power Plants Petroleum Manufacturing Facilities Railroad Yards Maritime Ports Miscellaneous Armed Reconnaissance	30.3 <u>a/b</u> / 68.8 29.5 <u>a</u> / 7.5 18.0 6.1 <u>a</u> / 1.4 <u>a</u> /	Barracks Ammunition Depots Motor Vehicle and Supply Depots Airfields Radar and Communications Sites SAM Sites Naval Bases	29.0 <u>a</u> / 5.2 <u>a</u> / 8.5 <u>a</u> / 1.1 <u>a</u> / 2.8 5.7 <u>a</u> / 1.6 <u>a</u> /	
SUBTOTAL, Direct Losses	163.7	Aircraft Naval Craft Miscellaneous Armed	32.8 5.1	
Indirect Losses		Reconnaissance	14.5	
Exports <u>c</u> / Agriculture <u>d</u> / Fishing	29.5 42.5 8.3	TOTAL, Direct Losses  TOTAL Million US\$	106.3	
SUBTOTAL, Indirect Losses TOTAL, Direct and Indirect	80.3	Economic Military	244.0 106.0	
, street and indirect	244.0	TOTAL	350.0 <u>e</u> /	

<sup>a. Estimate is incomplete because of inadequate post-strike photography.
b. Of the total, \$5.6 million is estimated to have been expended to date on the repair of damaged and destroyed bridges and \$24.7 million is estimated in addition, \$1.6 million would be required to make temporary repairs to presently unrepaired bridges.</sup> 

c. Including imports of cement necessitated by the loss of production at the Haiphong Cement Plant.

d. It should be noted that losses of agricultural crops are arbitarily attributed entirely to the indirect effects of the bombing. An unknown part of these losses is in fact due to weather and other natural causes.

e. Excluding the cost of trucks destroyed and damaged in Laos and economic and military facilities and equipment destroyed and damaged by US naval operations along the coast of southern North Vietnam.

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